

**ARI Research Note 2011-03**

**List of U.S. Army Research Institute  
Research and Technical Publications  
for Public Release/Unlimited Distribution**

**Fiscal Year 2010  
October 1, 2009 to September 30, 2010**



**United States Army Research Institute  
for the Behavioral and Social Sciences**

**April 2011**

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**U.S. Army Research Institute  
for the Behavioral and Social Sciences**

**Department of the Army  
Deputy Chief of Staff, G1**

**Authorized and approved for distribution:**

A handwritten signature in black ink that reads "Michelle Sams". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

**MICHELLE SAMS, PhD.  
Director**

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Technical Review by

Dorothy Young, U.S. Army Research Institute

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## FOREWORD

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The means of dissemination of the results of the U.S. Army Research Institute for the Behavioral and Social Sciences' (ARI) research and development/studies and analysis program vary widely depending on the type of research, the subject matter, and the sponsor/proponent. Typically, major findings with immediate policy and procedural implications are briefed to sponsors and proponents in order to enable timely implementation. This is followed up with complete documentation in the form of research and technical publications such as the ones listed here. In many cases, these documents represent the actual item handed off to the sponsor/proponent; this is particularly true of the Research Product category. In other cases, results are published in order to provide a complete record of the research accomplished and for future reference by researchers doing research in the same or similar areas.

This annotated list of unlimited reports, and Research Note 2011-04, an annotated list of restricted/limited reports, provide an idea of both the depth and scope of the ARI FY10 research effort, and is a valuable resource for anyone interested in military psychology from either a scientific or operational perspective

A handwritten signature in black ink that reads "Michelle Sams". The signature is fluid and cursive, with the first name "Michelle" and last name "Sams" clearly distinguishable.

**MICHELLE SAMS, PhD.**  
**Director**



List of U.S. Army Research Institute  
Research and Technical Publications  
for Public Release/Unlimited Distribution

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October 1, 2009 to September 30, 2010  
with Author Index and Report IDs

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## Introduction

The primary responsibility of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is to maximize Soldier effectiveness. ARI accomplishes its mission through research and development in the acquisition, training, utilization, and retention of Army personnel. ARI research and products affect every Army mission with a human performance component.

ARI publishes lists of its technical and research publications as convenient references for qualified agencies, individuals, and sponsors. This issue of the publications' list describes reports published during the period October 1, 2010, to September 30, 2011. It contains the abstract of each publication and the bibliographic information needed to access a publication. The abstracts have been written, as far as possible, to describe the principal research findings in non-technical terms; however, technical language is often used to communicate efficiently the details of research analysis. Author indexing provides access to individual reports.

## ARI Publications

ARI publications are divided into separate, consecutively numbered categories appropriate to their intended audience and function. Missing report numbers in this list can be found in Research Note 2011-04, *List of U.S. Army Research Institute Research and Technical Publications for Restricted/Limited Distribution*. During fiscal year 2011, the following types of research and technical reports were issued by ARI:

**Technical Report (TR).** A report of completed research intended primarily for dissemination to researchers.

Research Reports and Technical Reports published by the U.S. Army Research Institute for the Behavioral and Social Sciences are intended for sponsors of research and development (R&D) tasks and for other research and military agencies. Any findings ready for implementation at the time of publication are presented in the last part of the Executive Summary. Upon completion of a major phase of the task, formal

recommendations for official action normally are conveyed to appropriate military agencies by briefing or memorandum.

**Research Report (RR).** A report of completed research intended primarily for dissemination to military managers. Research Reports may deal with policy-related issues but typically do not include specific policy recommendations.

**Research Product (RP).** A user-oriented report intended to aid Army personnel. Examples are handbooks, manuals, and guidebooks.

**Special Report (S).** A published report on a topic of special interest or in-house research intended primarily for dissemination to a select audience.

**Study Report (SR).** A published report briefly documenting studies and analyses.

**Study Note (SN).** A Study Note may contain or consist of technical text, computer code, diskettes or tapes with software, databases, codebooks or other documentation, raw data, data collection instruments, figures, tables, or any other products that do not concisely convey the import of a project but which must be archived for technical completeness.

**Research Note (RN).** An interim, or final report typically of limited interest outside of ARI. It is filed with the Defense Technical Information Center (DTIC) but is not printed. Research Notes usually fall into one of the following categories:

- An in-house report that is of limited interest outside of ARI but is considered worth submitting to DTIC to be part of the Department of Defense (DoD) archive of technical documentation.
- An interim contract report that is of limited interest outside of ARI but is considered worth submitting to DTIC to be part of the DoD archive of technical documentation.
- A final contract report that is of limited interest outside of ARI but must be submitted to DTIC in accordance with Department of the Army regulations to close a contract.
- Material related to a Research Report or Technical Report (detailed tables, graphs, charts, sample forms, and sample training and testing materials) published as a Research Note to economize on printing and distribution.

**Contractor Report (CR).** An interim, or final report by a contractor that meets contractual obligations but is not defined by the other report categories.



## **ARI Distribution Policy**

Initial distribution of these publications is made directly by ARI. Research Reports, Technical Reports, Study Reports, and Research Products are distributed primarily to operational and research facilities and their sponsors in DoD, to other interested Government agencies, and to DTIC. Research Notes, Study Notes, and Contractor Reports are filed with DTIC but are not published.

These publications are NOT available from ARI. Registered DoD agencies, and in some cases contractors, can purchase paper copies from:

Defense Logistics Agency  
Defense Technical Information Center  
8725 John J. Kingman Road, Suite 0944  
Ft. Belvoir, VA 22060-6218  
(703) 767-9030 or DSN 284-9030

Other Government agencies and the general public can obtain unclassified reports from:

U.S. Department of Commerce  
National Technical Information Service  
5285 Port Royal Road  
Springfield, VA 22161  
(703) 487-4650

NOTE: When requesting copies of these reports, use the DTIC accession number (AD - - - - -) appearing in parentheses following the date of publication of each citation.



## Technical Reports

### TR 1259

#### **Social Perspective Taking**

Linda Roan, Beret Strong, Paulette Foss, Mark Yager, Hunter Gehlbach, & Kimberly A. Metcalf. September 2009. (ADA509341)

The current mindset of the Army is that it must be able to win our Nation's wars while at the same time ready to assist in stability operations (U.S. Department of the Army, 2008). A challenge is that Soldiers often have to bridge large cultural gaps and may lack the language skills to effectively engage with the host of individuals now present in these operations including the local populace, host nation security forces, coalition partners and other foreign governmental and nongovernmental agencies. Perspective taking – described more formally as “Social Perspective Taking” (SPT) – is an interpersonal technique which may address these challenges. SPT is a skill often learned throughout life but may be very difficult in cross-cultural interactions. This report describes the results of a literature review and SME and Soldier interviews regarding the knowledge, skills, and abilities (KSAs) needed to develop SPT and the methods used to train SPT. Based on this information a four module curriculum is proposed which utilizes a four-step method for the development of SPT. The curriculum trains Soldiers how to accurately consider the host-national's perspective without cultural bias and erroneous assumptions and allows Soldiers to meet host-national goals while accomplishing U.S. missions and objectives. <http://handle.dtic.mil/100.2/ADA509341>

KEYWORDS: social perspective taking, cultural training, cross-cultural skills, cultural understanding

### TR 1260

#### **Locus of Control, Risk Orientation, and Decision Making Among U.S. Army Aviators**

David R. Hunter, & John E. Stewart. October 2009. (ADA509824)

This report was developed under the Small Business Innovative Research Program Phase I. The goal of the research was to develop a set of web-based prototype scales that would assess hazardous events, locus of control, safety-related attitudes, and risk orientation among U.S. Army Aviators. New measurement scales with an Army focus were developed that were modeled after civilian scales. These scales were: Army Hazardous Events Scale, Army Locus of Control Scale, Army Safety Attitudes Scale, and Army Aviation Scenarios Scale. In four surveys the scales were administered to samples of Army Aviators and their responses were used to conduct a preliminary evaluation of the scales. All the scales were found to exhibit good psychometric reliability and several of the sub-scales from the measures were significantly correlated with self-reported accident involvement. <http://handle.dtic.mil/100.2/ADA509824>

KEYWORDS: locus of control, sense of personal control, aviation safety, pilots, hazardous attitudes, hazardous events, risk management, perception of risks, decision making

**TR 1261**

**Understanding Demonstration-based Training: A Definition, Conceptual Framework, and Some Initial Guidelines**

Eduardo Salas, Michael A. Rosen, Davin Pavlas, Randy Jensen, Dan Fu, Sowmya Ramachandran, Elizabeth Hinkelman, & Donald R. Lampton. October 2009. (ADA509390)

This research was conducted as part of a Phase I Army Small Business Innovative Research (SBIR) contract monitored by the United States Army Research Institute for the Behavioral and Social Sciences (ARI). The overall goal of the SBIR topic is to develop a comprehensive system for designing, producing, distributing, and using training demonstrations. This report provides an initial formalism for demonstration-based learning, to be incorporated into the design and development of that system. The report provides a conceptual definition of demonstrations, a framework of demonstration features, and a set of initial guidelines for designing effective demonstrations organized around the presented framework. This serves the dual purposes of organizing what is known about designing effective demonstrations and directing future research

<http://handle.dtic.mil/100.2/ADA509390>

KEYWORDS: training, demonstration, instruction strategy

**TR 1262**

**Evaluation of the Virtual Squad Training System**

Donald R. Lampton, & Christian J. Jerome. January 2010. (ADA514969)

The Virtual Squad Training System (VSTS) is a network of nine individual immersive simulators with Helmet-Mounted Displays (HMDs), and a command station for controlling computer generated entities. The VSTS includes both tethered and wearable simulators. The VSTS was evaluated with two squads (9 members per squad) of Soldiers performing selected individual/fire team tasks and squad tactical exercises for dismounted infantry over a four day period (two days per squad). Soldiers rated the system capabilities of 62 specific simulator functions (such as move and shoot) and rated the perceived training effectiveness for 24 tasks such as react to direct and indirect fire. A structured interview addressed various training issues. Frequent technical problems with individual simulators and the network interfered with the conduct of the evaluation and probably affected Soldiers' ratings of the VSTS. Simulator sickness incidence was low compared to previous evaluations of antecedent systems using HMDs.

<http://handle.dtic.mil/100.2/ADA514969>

KEYWORDS: virtual environments, dismounted infantry, training, presence, simulator sickness

## **TR 1263 - Cancelled**

### **TR 1264**

#### **Cross-Cultural Strategies for Improving the Teaching, Training, and Mentoring Skills of Military Transition Team Advisors**

Andi O'Connor, Linda Roan, Kenneth Cushner, & Kimberly A. Metcalf.  
April 2010. (ADA507715)

Military doctrine currently provides guidance on various methods to train host-nation security forces (FM3-24); yet U.S. advisors typically have little training in teaching methods, particularly in a cross-cultural environment. This document presents a conceptual framework that identifies individual advisor and counterpart differences, as well as the situational and cultural factors that impact the success and failure of training, coaching, or mentoring. This report includes a comprehensive literature review, data from iterative interviews with host nationals, military transition team members, cross-cultural education experts, educators and trainers from the U.S., Afghanistan, Iraq and the Horn of Africa. It also includes recommendations which outline innovative methods for training military advisors to more effectively teach and coach their counterparts in a cross-cultural setting. In order to provide effective advising to host nationals, advisors need expertise in two areas: 1) cross-cultural competencies related to teaching and learning and 2) cross-cultural teaching strategies. Key cross-cultural competencies pertinent to the military advisor are identified and include understanding the cross-cultural teaching/advising relationship, culturally relevant curriculum and methods, cross-cultural communication, and effective cross-cultural assessment. The report also includes a discussion of structural barriers to effective advising, and recommendations for developing a cross-cultural teaching and training curriculum for Soldiers.

<http://handle.dtic.mil/100.2/ADA507715>

KEYWORDS: cross-cultural training, advisors, transition team, teaching, mentoring

### **TR 1265 - See RN 2011-04**

### **TR 1266 - See RN 2011-04**

### **TR 1267**

#### **Expanded Enlistment Eligibility Metrics (EEEM): Recommendations on a Non-Cognitive Screen for New Soldier Selection**

Deirdre J. Knapp, & Tonia S. Heffner. July 2010. (ADA523962)

The Army needs the best personnel available to meet the emerging demands of the 21<sup>st</sup> century. Accordingly, the Army is seeking recommendations on experimental non-cognitive predictor measures (e.g., interests, values, temperament) that could enhance entry-level Soldier selection and classification decisions. The U. S. Army Research Institute for the Behavioral and Social Sciences (ARI) is conducting a longitudinal criterion-related validation research effort to collect data to inform these recommendations. Experimental predictor measures of individual differences in

temperament and job interests were administered at Army Reception Battalions to 8,103 new Soldiers. At the end of training, archival criterion data were collected for 7,599 Soldiers and supplemented with for-research-only criteria for 1,194 Soldiers. The results support the Tailored Adaptive Personality Assessment (TAPAS) and Work Preferences Assessment (WPA) as candidates for a new Soldier screen. Based on these results, the Army has implemented the TAPAS as an operational test for applicants and is pursuing further research on the WPA. An operational test and evaluation (IOT&E) has been initiated to evaluate the new screen. <http://handle.dtic.mil/100.2/ADA523962>

KEYWORDS: behavioral and social science, personnel, criterion-related validation, selection and classification, manpower

#### **TR 1268**

##### **Development and Evaluation of the Officer Transition Survey and Proxy Group**

Elizabeth Lentz, U. Christean Kubisiak, Peter J. Legree, Kristen E. Horgen, Mark C. Young, Tiffany Smith, T. Ryan Dullaghan, Jacob E. Sauser, Erin M. Jackson, & Trueman R. Tremble. July 2010. (ADA523959)

The work described in this report is an extension of the STAY project, with a directed focus on officer career continuance. An Officer Transition Survey (OTS) was developed to identify and examine the factors that influence junior officers to continue serving beyond their ADSO or separate from the Active Army. Career continuance factors and separation motives were identified and documented for 169 Active Army junior officers (O1-O3) who were actively out-processing at Army Transition Centers. Data were also collected from proxy samples that were comprised of 485 junior officers who were in the process of deciding whether to serve beyond their service obligation (officer proxy sample) and 68 experts who work closely with junior officers (expert proxy sample). Results indicated the OTS provides valid, empirical information regarding junior officers' career continuance influences and separation motives. Results also show that officer and expert proxy samples can be used to understand and quantify the motives of officers who are separating from the Active Army. These findings have important implications for collecting valid information using a more efficient, streamlined application of survey methodology that expends fewer resources. <http://handle.dtic.mil/100.2/ADA523959>

KEYWORDS: junior officers, lieutenants, captains, career continuance, separation motives, officer transition survey, proxy analyses, proxy research design, survey methodology

#### **TR 1269 – See RN 2011-04**

#### **TR 1270 – Cancelled**

#### **TR 1271**

##### **Influence of the Officer Retention Resource Website on Attitudes and Retention Intentions**

Sarah A. Hezlett, Jeff W. Johnson, & Nehama Babin. September 2010. (ADA531572)

We developed and evaluated a website targeted at influencing key factors previously identified as important to company grade officers' retention decisions. Information collected from a series of focus groups conducted with officers guided the development of the website. We used a pre-test post-test control group design to evaluate the impact of having the opportunity to use the website. Officers in the treatment condition participated in group sessions featuring an orientation to the website. They subsequently had access to the website for about three months. Officers in the control group attended sessions where they participated in a structured group discussion of retention. Officers in both groups completed pre-surveys before the treatment was implemented and were invited to complete follow-up surveys three months later. After controlling for pre-survey scores and variables on which the treatment and control groups initially differed significantly, no statistically significant differences were observed between the control and treatment groups on the follow-up surveys. However, officers in the treatment condition who visited the website after the orientation subsequently had more favorable perceptions of their pay and benefits than those who did not. The limitations of this investigation are discussed. Recommendations for future initiatives to improve retention are made.

<http://handle.dtic.mil/100.2/ADA531572>

**KEYWORDS:** company grade officer retention, officer retention website, career continuance

#### **TR 1272**

##### **Scoring Situational Judgment Tests Using Profile Similarity Metrics**

Peter J. Legree, Robert Kilcullen, Joseph Psotka, Dan Putka, & Ryan Ginter. July 2010. (ADA530091)

This paper describes the application of profile similarity metrics to score Situational Judgment Tests (SJTs) that utilize rating scales to register examinee responses. The paper presents and discusses mathematical analyses that decompose distance-based measures into component indices based on correlation, dispersion and elevation metrics. The mathematical analyses demonstrate that distance measures represent a mixture of variance that can be associated with these separate components. Comparing the validities of distance and component indices using Leader Knowledge Test (LKT) data supports conclusions that the use of component indices (i.e., correlation, dispersion and elevation scores) improves the validity of SJTs that utilize rating scales.

<http://handle.dtic.mil/100.2/ADA530091>

**KEYWORDS:** situational judgment tests, profile similarity metrics, leader knowledge test, junior officers, lieutenants, captains

### **Research Reports**

#### **RR 1913**

##### **Science of Human Measures Workshop: Summary and Conclusions**

Gregory A. Goodwin, Jennifer, S. Tucker, Jean L. Dyer, & Jacquelyn Randolph. October 2009. (ADA507935)

The U.S. Army Research Institute for the Behavioral and Social Sciences hosted a workshop on human measurement. The workshop consisted of four panels that discussed assessment of attitudes and aptitudes, mental agility, individual performance, and new training programs. The workshop began with a plenary session with keynote addresses. Each panel was led by a retired general officer and a leading academic or industry researcher. With regard to measuring attitudes and aptitudes, key topics discussed included developing better ways to identify highly qualified individuals from among those who would otherwise be ineligible for service and developing better measures of Soldier and Family well-being. To develop mental agility measurements, panelists suggested building a model based on critical incidents of operational experience, developing measures to assess the critical skills identified in the model, and linking the measures to performance. Regarding the measurement of individual performance, panelists discussed re-scoping initial entry training to train and measure attributes like teamwork, initiative, and accountability in addition to basic combat skills and tasks. Finally, with regard to assessing new training programs, panelists discussed the many challenges in conducting quality assessments of new institutional courses, new equipment training, and unit training. At the end of the workshop, the co-leaders briefed the conclusions of their panels to an invited audience of Army leaders.

<http://handle.dtic.mil/100.2/ADA507935>

**KEYWORDS:** assessment, attitudes, aptitudes, Soldier well-being, mental agility, cognitive readiness, individual performance, new training programs, new equipment training, unit training

**RR 1914 - See RN 2011-04**

**RR 1915**

**Exploring the Use of a Multiplayer Game to Execute Light Infantry Company Missions**

Scott A. Beal, Kevin Wright, & David Topaz. October 2009. (ADA509331)

Leaders and instructors in the Maneuver Captains Career Course (MCCC) at Fort Benning, Georgia, have had limited success using training games. Early efforts to provide the MCCC with training games resulted in mission scenarios that were broad in scope, but lacked depth and realistic functional effects, particularly those exhibited by computer-generated forces. In order to elevate the level of functional fidelity and meet training objectives, MCCC instructors explored the use of DARWARS Ambush, a multiplayer game that eliminated computer-generated forces, provided appropriate assets, and allowed MCCC Soldiers to control leader and subordinate entities during simulated Infantry company-level missions. This paper documents an exploratory evaluation of a multiplayer game to provide the MCCC with effective company-level simulated mission execution experiences. Forty Soldiers executed two missions during which each human entity on the simulated battlefield was controlled by a human Soldier. Researchers measured the extent to which the game provided control over assets, appropriate tactical capabilities, and the opportunity for Company Commanders to make and implement



tactical decisions as conditions and events emerged. The Soldiers expressed their perceptions of the training value and effectiveness of the multiplayer game by completing a questionnaire. Results suggested that multiplayer games have some training potential, but that desired performance outcomes can only be realized when specific environmental and training conditions are met. <http://handle.dtic.mil/100.2/ADA509331>

KEYWORDS: training game, multiplayer game, tactical decision making, infantry company command

## **RR 1916**

### **Asymmetric Attention: Visualizing the Uncertain Threat**

Christopher L. Vowels. March 2010. (ADA516567)

This report attempts to fuse Army needs, specific to threat detection, with available evidence from academia and military sources. The report provides viable routes for short-term enhancement of threat detection training and long-term goals of a research program dedicated to improving the Army's understanding of threat detection. This review found two major avenues of research, visual attention and visual memory that would benefit research and understanding of attention and threat detection for current and future operational environments. Based on the review, at least three sequential skills are discussed as necessary for understanding and improving threat detection: attentiveness, recognition, and action. These skills orient and guide the Soldier in operational settings from the basic perceptual process at the attentiveness stage up through higher-order reasoning at the action stage. Training formats are explored including still images and high-fidelity simulations, all of which could be scaffolded upon a deliberate practice framework. <http://handle.dtic.mil/100.2/ADA516567>

Keywords: attention, infantry, threat, threat detection, IED, sniper, patrol, convoy, reconnaissance, irregular warfare, asymmetric warfare

## **RR 1917**

### **Assessing Judgment Proficiency in Army Personnel**

Hannah Foldes, Gonzalo Ferro, Nick Vasilopoulous, Michael Cullen, Michelle Wisecarver, & Scott A. Beal. February 2010. (ADA514851)

Because of the unpredictable nature of the Army's current conflicts, operational requirements demand that Soldiers and leaders become proficient in military judgment and decision-making. This research presents an analysis of military judgment proficiency (MJP), which is judgment and decision-making in environments characterized by cultural, legal/ethical, and tactical complexity. We reviewed relevant literature in the areas of judgment, decision-making, and problem-solving to present a sound theoretical foundation for the MJP construct. We defined MJP as a complex skill and argued that in ambiguous, novel, rapidly changing situations in which there is limited time, information, and resources, Soldiers demonstrating MJP are more likely to select an effective course of action by appropriately identifying the nature of the situation, recognizing relevant situational factors, and forecasting the best overall outcome(s), given the situation. We

describe also the initial stages of development of an assessment tool that will distinguish among Soldiers on MJP, and lay out future plans for test validation with Special Forces and non-Special Forces Soldiers. <http://handle.dtic.mil/100.2/ADA514851>

KEYWORDS: military judgment, decision-making, problem-solving, Situational Judgment Test (SJT), complex cognitive skills, judgment proficiency

#### **RR 1918**

##### **Sustainment of Individual and Collective Future Combat Skills: Modeling and Research Methods**

Anna T. Cianciolo, Brian T. Crabb, Peter S. Schaefer, Steven Jackson, & Jeff Grover. January 2010. (ADA514991)

Army commanders have insufficient time to train on every mission requirement and organizational standard. Mission essential task lists help to scope training requirements based on current performance. However, there presently is no way for unit trainers to systematically schedule their training based on *expected* performance. The ability to project training status outward, beyond current performance levels, would enhance decisions about scheduling training. ARI has previously investigated skill retention in order to develop such a capability. Changes in the operational environment and in the theoretical understanding of human performance have created opportunities to advance ARI's research program and have necessitated that these advances be made to assist the warfighter. Our research assessed the implications of the contemporary operational environment for maintaining skilled performance in light of a host of theoretical factors thought to influence skill decay. We implemented our findings in a survey-based instrument to be used for rating individual and collective tasks on several of these retention factors. This paper describes the survey-based instrument, its development, and initial evaluation. In future work, task ratings assigned using this instrument will be compared to actual performance data in order to build and validate a quantitative model of individual and collective skill retention.

<http://handle.dtic.mil/100.2/ADA514991>

KEYWORDS: Future Combat Systems (FSC), cognitive themes

#### **RR 1919**

##### **Soldiers' Toolbox for Developing Tactics, Techniques, and Procedures (TTP)**

Richard Topolski, Bruce C. Leibracht, Timothy Porter, Chris Green, R. Bruce Haverty, & Brian T. Crabb. February 2010. (ADA517635)

This document describes research conducted to create an innovative, Soldier-friendly method for developing tactics, techniques, and procedures (TTP). The approach built on previously developed methodology, blending knowledge elicitation techniques and simulation-based vignettes to produce a flexible set of tools to structure and guide the TTP development process. The resulting toolbox was implemented with Soldiers to obtain feedback and ideas for improving the method. When groups of Soldiers used the toolbox to develop focused TTP, the method proved to work well with a variety of

missions and tactical conditions. The clarity and quality of the tools as well as the effectiveness of the method were assessed using multiple measures. The Soldiers rated the effectiveness of the method's various components positively. The quality of the resulting TTP increased across exercises (practice effect) and groups (resulting from toolbox improvements between groups). Lessons learned about various aspects of the methodology are included. <http://handle.dtic.mil/100.2/ADA517635>

KEYWORDS: tactics, techniques, and procedures, combat development, simulation-based vignettes, future force

## **RR 1920**

### **Applying Combat Application Course Techniques to Rifle Marksmanship in Basic Combat Training (BCT): Acquisition and Retention of Skills**

M. Glenn Cobb, Thomas R. Graves, David R. James, Michael D. Dlubac, & Richard L. Wampler. March 2010. (ADA516970)

This research provided an initial assessment of the impact on performance outcomes of providing additional time for Basic Rifle marksmanship (BRM) training in Basic Combat Training (BCT) and of integrating Asymmetric Warfare Group (AWG) and Combat Application Training Course (CAT-C) training techniques within two BCT Companies. The report provides a snapshot of how Soldiers retained marksmanship skills in association with the integration of AWG training techniques in BRM and the addition of one week to the BCT schedule. Results indicated that the new training techniques and additional training time did not significantly impact performance outcomes or BRM skill retention when compared to BRM performance of Soldiers trained using legacy techniques and less training time during BCT. Although sample and methodological considerations limit the generalizability of this research, it provides some essential insights into the initial integration of CAT-C/AWG training strategies and techniques within BCT at Fort Jackson. <http://handle.dtic.mil/100.2/ADA516970>

KEYWORDS: AWG, basic combat training, initial entry training, basic rifle marksmanship, retention, BRM, BCT, Asymmetric Warfare Group (AWG), Combat Application Training Course (CAT-C)

## **RR 1921**

### **Army Institutional Training: Current Status and Future Research**

William R. Bickley, Robert J. Pleban, Frederick J. Diedrich, Jason Sidman, Robert P. Semmens, & Alexandra Geyer. March 2010. (ADA516971)

This document provides a listing of findings and issues resulting from an overview of current Army institutional training and, from the perspective and constraints of Army training, an overview of current learning theory and science. Findings and issues are categorized as "policy issues" and "research issues." Policy issues, such as training scheduling and availability or quality of training technology, are presented as items with relatively straightforward, direct potential solutions that can be analyzed and considered for adoption by Army institutional training management. Research issues, such as

modifying training to address far transfer or integrating problem-centered instructional approaches into Army training, are presented as items with no direct solutions and that are suitable for further investigation, ranging from basic research in training and education to development and assessment of prototype Army training and education products.

<http://handle.dtic.mil/100.2/ADA516971>

**KEYWORDS:** Army institutional training, transfer of training, learning science, learning theories, Army training transformation, Army distributed learning

## **RR 1922**

### **Evaluating a Job Aid for Tactical Site Exploitation at the Joint Readiness Training Center**

Kenneth L. Evans, MAJ Joshua A. Snyder, & 1SG Frederick Carmicle. April 2010. (ADA518694)

The present investigation sought to quantify small unit tactical site exploitation (TSE) practices at the Joint Readiness Training Center (JRTC) and to determine the extent to which an existing job performance aid, the TSE Smart Card, might improve unit TSE performance. Unit TSE practices were measured by trainers/mentors using the TSE Checklist, a tool developed especially for the investigation. Over the course of nine unit rotations at JRTC, 518 checklists were collected and analyzed. The TSE Smart Card was found to positively influence unit performance in the areas of TSE background, planning, execution, and follow-up. Unit strengths and weaknesses in TSE operations were identified. Overall, units that rehearsed their TSE plans were significantly more likely to take advantage of TSE opportunities, to conduct TSE operations in a timely manner, and to orchestrate TSE in accordance with the combat situation.

<http://handle.dtic.mil/100.2/ADA518694>

**KEYWORDS:** tactical site exploitation, Joint Readiness Training Center, job performance aids, company intelligence, support teams, biometric identification equipment

## **RR 1923**

### **Assessing Soldier Individual Differences to Enable Tailored Training**

Peter S. Schaefer, Nic Bencaz, Mike Bush, & Don Price. April 2010. (ADA519594)

Tailoring training can improve training effectiveness and efficiency. However, before informed decisions can be made about tailoring training in U.S. Army institutional settings, decision makers must know which individual differences are relevant to learning in those settings. To that end, instructors at the Ft. Rucker, AL Warrant Officer Candidate School (WOCS) were interviewed to determine which individual differences predict Soldier academic performance. Other individual differences (IDs) were selected by the research team on the basis of hypothesized relationships between experiences and course demands. Instruments created to measure those individual differences were reviewed and approved by the WOCS instructors. The instruments were then administered to two classes (more experienced vs. less experienced military persons, total  $N = 157$ ) of WOCS students. The ability of the instruments to predict academic

performance was then assessed. Which IDs predicted academic performance varied with class type. Implications for future tailored training research are discussed.

<http://handle.dtic.mil/100.2/ADA519594>

KEYWORDS: individual differences, academic performance, tailoring training, performance prediction, warrant officer

#### **RR 1924**

##### **Soldier Performance on a New Marksmanship Course of Fire**

Jean L. Dyer, Peter S. Schaefer, Martin L. Bink, David R. James, Richard L. Wampler, & Michael D. Dlubac. June 2010. (ADA523973)

The research investigated a new course of fire, called combat field fire (CFF), to determine CFF marksmanship standards, and where CFF should occur in marksmanship training. CFF is a complex scenario requiring changing magazines, reacting to a simulated malfunction and engaging targets within arrays that require multiple hits. Ten training companies (1976 Soldiers) from the Infantry OSUT and Basic Combat Training Brigades at Ft. Benning, GA participated. Six companies executed Army qualification at the end of basic rifle marksmanship (BRM) and CFF at the end of advanced rifle marksmanship (ARM). Four executed CFF in BRM and executed Army qualification in ARM. Performance data and Soldier interviews revealed the unique dynamics of CFF, differentiating it from Army qualification. Results showed that CFF should be in ARM, as Soldiers were not prepared in BRM for the additional skills and demands required by CFF. Recommended standards were developed for the Expert, Sharpshooter, Marksman, and Unqualified marksmanship categories, TPU (trained, needs practice, and not trained) categories, and Go/NoGo categories.

<http://handle.dtic.mil/100.2/ADA523973>

KEYWORDS: basic rifle marksmanship, advanced rifle marksmanship, combat field fire (CFF), measuring Soldier performance, marksmanship training, marksmanship qualification, combat fire, marksmanship standards

#### **RR 1925**

##### **Full Spectrum Training and Development: Soldier Skills and Attributes**

William Cooper, Bruce C. Leibrecht, Heather Anderson, Richard Topolski, Robert Reeves, & Carl W. Lickteig. July 2010. (ADA524491)

Counterinsurgency (COIN) is essentially a human endeavor that taxes the full spectrum of human capabilities. The challenges of COIN and Full Spectrum Operations (FSO) require a complementary approach to Soldier preparation referred to here as Full Spectrum Training and Development (FSTD). The goal of the research described in this report was to develop an exemplary guide for FSTD focused on the skills and attributes needed for reconnaissance leaders in FSO. This goal was achieved by developing and evaluating a guide designed to help instructors facilitate collaborative learning. The guide incorporated principles and best practices of peer-to-peer training to directly support instructors teaching reconnaissance leader skills and attributes. During development the

guide underwent iterative review by course leaders and instructors as well as behavioral research scientists. The guide was then evaluated and revised based on two operational implementations. Empirical data from the evaluations suggested the guide is a valuable and welcome resource for instructors and course leaders. The report includes suggestions for extending the methodology to other U.S. Army courses.

<http://handle.dtic.mil/100.2/ADA524491>

**KEYWORDS:** peer-to-peer training, Army Reconnaissance Course, training, development, Soldier skills, Outcomes-Based Training and Education, instructional methods, Soldier attributes

## **RR 1926**

### **Prototype Procedures to Describe Army Jobs**

Michael Ingerick, Joy Oliver, Matthew Allen, Deirdre Knapp, Richard Hoffman, Peter Greenston, & Kimberly Owens. July 2010. (ADA523957)

Descriptions of Army jobs or Military Occupational Specialties (MOS) provide the foundation for Army personnel management, from entry-level selection and classification to training and performance management. However, existing job analysis approaches used in the Army have a number of limitations. This project represents the first step in a long-term research roadmap intended to address this issue (Campbell et al., 2007). The purpose of this project was to develop and field test a new prototype job analysis approach, customized to the Army, for describing entry-level enlisted jobs. Questionnaires measuring work and worker-oriented domains were developed and administered online to incumbents and supervisors in six MOS ( $N = 1,390$ ): (a) Infantryman (11B), (b) Armor Crewman (19K), (c) Signal Support Specialist (25U), (d) Light-Wheel Vehicle Mechanic (63B), (e) Military Police (31B), and (f) Motor Transport Operator (88M). The results of the field test demonstrated that the questionnaires evidenced sufficient reliability and validity for describing enlisted jobs and feature a method that could be easily expanded Army-wide and at a reasonable cost. The report concludes with a summary of lessons learned from the field test and discussion of ways in which future research can enhance and extend the prototype approach.

<http://handle.dtic.mil/100.2/ADA523957>

**KEYWORDS:** work analysis, job analysis, job clustering, personnel selection and classification

## **RR 1927**

### **The Roles of Perseverance, Cognitive Ability, and Physical Fitness in U.S. Army Special Forces Assessment and Selection**

Scott A. Beal. July 2010. (ADA525579)

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) conducted research for more than a decade in support of U.S. Army Special Operations Forces (ARSOF) assessment, selection, and training. This research was completed prior to the events of September 11, 2001. Leaders at the John F. Kennedy Special Warfare



Center and School (SWCS) at Fort Bragg, NC, requested that ARI begin updating research in support of Special Forces. This report documents a new effort to understand better the roles of cognitive ability, physical fitness, and performance events in the Special Forces Assessment and Selection (SFAS) process. In addition, researchers identified a measure of perseverance, viewed as an individual Soldier characteristic, to include in the investigation at the SWCS's request. The 824 Candidates who participated in this research completed a series of cognitive ability tests, physical fitness measures, SFAS performance events, and the test of perseverance. The results showed that almost all the tests and measures included in the analyses contributed to valid predictions of Soldier success with SFAS, but that their individual strengths of prediction varied. The SFAS performance events provided the greatest predictive strength, followed by the cognitive ability and physical fitness tests. While perseverance provided a unique contribution, its role was incremental, at best, and should not be used as a criterion for selection decisions in isolation from the other measures. Taken together, the tests and measures form an empirically-sound foundation upon which SFAS decisions can be based. Once obtained and analyzed, the outcome data from the Special Forces Qualification Course (SFQC) and subsequent training will provide a more complete view of how well the tests and measures included in this research predict long-term success in Army Special Forces. <http://handle.dtic.mil/100.2/ADA525579>

**KEYWORDS:** Army Special Forces, personnel selection, perseverance, predictors of success, Special Forces Assessment and Selection (SFAS)

## **RR 1928**

### **END STATE – Commander's Visualization at the Company Level: Training Refinement and Transition**

Carl Lickteig, Heather Stroupe, Ellen Menaker, Tristan Hendrix, David Myers, Michael Silverman, & Anna T. Cianciolo. August 2010. (ADA527556)

Visualization is a critical command skill that must be acquired early in a leader's career. Training is needed that will improve commander's visualization through deliberate reflection and practice, coupled with performance assessment and expert feedback and guidance. To meet this requirement, the U.S. Army Research Institute for the Behavioral and Social Sciences researched and developed a training product called END STATE – Commander's Visualization at the Company Level. This report documents follow-on research conducted to refine and transition the END STATE training product to the U.S. Army's junior leaders. During prior formative evaluations, 48 captains, lieutenants, and senior non-commissioned officers (NCO) concluded that the END STATE training product is relevant, effective, and worth using. Given the additional refinements and results of the present research, the authors conclude that END STATE is a relevant learning tool that will help junior officers and NCOs develop the visualization skills needed to understand and adapt to the challenges of today's counterinsurgency environments.

<http://handle.dtic.mil/100.2/ADA527556>

**KEYWORDS:** visualization, battle command, training, counterinsurgency (COIN), junior leaders

**RR 1929****Web-enabled Exercise Generation Tool for Battle Command Training**

Amanda L. Palla, Anna T. Cianciolo, Alan Craig, Andrew Wadsworth, Kevin Chang, Paul Yuan, & Scott B. Shadrick. August 2010. (ADA527862)

U.S. Army trainers are required to deliver effective training in less time than ever before. Therefore, research and development to support Soldier training must explore advanced learning environments, instructional strategies, and training-development processes to enable the rapid generation of training activities that are responsive to immediate training needs. The purpose of the present Phase II Small Business Technology Transfer (STTR) effort was to research and develop an integrated platform of technologies, the U.S. Army Training Assistant (TA), to enable "one stop" creation, delivery, and management of web-enabled multimedia training exercises. The Phase II work detailed in this report consisted of behavioral research, development of a working TA prototype, and usability testing of the prototype. Results indicated that test participants generally found the TA to be easy to use, with the majority reporting that they could and would use it. If developed, the Phase III product would address four main areas of enhancement identified during user testing to create a tool that will allow unit trainers to create accurate, engaging training.

<http://handle.dtic.mil/100.2/ADA527862>

**KEYWORDS:** Small Business Technology Transfer (STTR), exercise generation tool, interactive multimedia instruction (IMI), adaptive training, training authoring, training delivery, content management

**RR 1930****Methods and Measures for Communicating Tactics, Techniques, and Procedures**

Heather Anderson, Richard Topolski, Bruce C. Leibrecht, Chris Green, Brian T. Crabb, & Carl W. Lickteig. September 2010. (ADA530341)

This report describes the methods developed and experiments executed to explore the best methods for communicating tactics, techniques, and procedures (TTPs) and measuring Soldiers' understanding of TTPs. It contains sample documentation of the communication methods, measures, training, and vignettes developed for this exploratory research and then packaged in a "TTP Toolbox" for Soldiers. Overall, each of the three modes of communication resulted in superior performance relative to the control condition, indicating the communication methods tested actually increased Soldiers' understanding of TTP. The Written mode of communication appeared to provide greater understanding of TTP; however, Soldiers preferred the Video-Graphic-Written mode. The authors examine alternate explanations for the findings and document lessons learned about TTP communication and measurement methods based on Soldiers' feedback. The report concludes with method recommendations to improve TTP communication and understanding for future research and implementation. A companion Research Product more fully documents the TTP methods in hard copy and electronic format to facilitate the transition of the TTP Toolbox to Army units and organizations.

<http://handle.dtic.mil/100.2/ADA530341>



KEYWORDS: tactics, techniques, procedures, simulation-based vignettes, future force, knowledge assessment

#### **RR 1931**

##### **Evaluation of a Game-Based Simulation During Distributed Exercises**

Michael J. Singer, & Bruce W. Knerr. September 2010. (ADA531579)

Two exercises using a Game-Based Simulation (GBS) were conducted by the U.S. Army Research Development and Engineering Command, Simulation and Training Technology Center (RDECOM-STTC) and the United Kingdom Land Warfare Development Group. Soldiers from the U.S. Army and the U.K. military conducted coalition mission rehearsals during each exercise. Data were collected on the system user interface, on the effectiveness of unit and joint exercise sessions, and on After Action Review (AAR) functionality and applications. Several issues in technological capabilities limited and constrained the military tasks that could be performed during the exercises, and limited the AARs. Nevertheless, questionnaire data collected during each exercise indicated several positive aspects of using game-based simulations. The GBS system was considered capable of providing considerable scope for general dismounted Soldier rehearsal and training. The graphics and user interface were judged adequate for use in training rehearsals and AARs, especially in preparation for home station field training exercises. The largest negative issue was the limited number of weapon types and equipment. The second largest issue was the limited equipment functionality that the system supported. A third issue was the lack of sufficient numbers of civilians and opposing forces for different interactions in the non-kinetic exercises.

<http://handle.dtic.mil/100.2/ADA531579>

KEYWORDS: Game-Based Simulation (GBS), training, simulation, user evaluation, distributed rehearsal

### **Research Products**

#### **RP 2010-01**

##### **Pilot Results – The use of real-time preference measurement technology to support the retention of enlisted personnel**

Bruce Bloss, Sev Keil, & Karl Rotstan. March 2010. (ADA517491)

This report describes a pilot project designed to demonstrate the feasibility of real-time preference measurement in a military personnel setting, specifically the preferences of enlisted Soldiers for re-enlistment incentive. TrueChoice Solutions (TCS) found the Defense Technical Information Center (DTIC) willing and able to host their preference measurement technology application. The Soldiers surveyed were in their first or second term and within 24 months of expiration of term of service (ETS). Response rates to the survey invitations were low (as expected), but completion rates of those who played the TCS “game” were very high. Illustrative preference measurement results from the TCS Dashboard – online analytics – are presented. <http://handle.dtic.mil/100.2/ADA517491>

KEYWORDS: Army enlisted preference measurement, real-time preference measurement technology

#### **RP 2010-02**

##### **Achieving Adaptability through Inquiry Based Learning**

Thomas M. Duffy, & Pamela Raymer. June 2010. (ADA523892)

This report presents inquiry based learning (IBL) as an instructional strategy addressing the Army's need for training flexible and adaptive leaders. Distinguishing tenets of IBL are characterized in contrast to the Army's current direct instruction strategy. Elements of IBL, including characterization of the orienting problem, learner support by the instructor, and assessment of learner outcomes are outlined. Considerations for developing an IBL curriculum are addressed, and details of an example of an Army IBL course of instruction are provided. <http://handle.dtic.mil/100.2/ADA523892>

KEYWORDS: inquiry based learning (IBL), problem based learning, Army training, adaptability, constructivism, instructional methods

#### **RP 2010-03**

##### **Developing a Blended Learning Approach for Army Leader Planning**

Jennifer S. Tucker, Jason Sidman , Alexandra Geyer, Gilbert Mizrahi, Joseph O'Driscoll, & Robert P. Semmens. September 2010. (ADA528755)

The objective of this research project was to develop a blended learning module that facilitates the integration of component knowledge into higher order leader concepts and skills. As the Army is transitioning many of its institutional courses to a blended learning curriculum, the Training and Doctrine Command (TRADOC) has called for ARI to demonstrate blended learning approaches in the development of course material. Thus, training content was identified within the Aviation Captains Career Course (AVC3) that would benefit from the use of blended learning techniques to further the acquisition of skills and knowledge. Specifically, the Tactical Decision Exercise (TDE)-Builder tool was developed to foster military planning skills with a particular focus on the topic of intelligence preparation of the battlefield (IPB). As there is limited time available in the course to ensure that the knowledge is acquired by all students, the tool provides students with the opportunity to practice conducting the IPB exercise at their own pace with the goal of reinforcing the knowledge and skills acquired during the course. The final tool and supporting documentation was transitioned to AVC3 instructors/trainers for use as a blended learning approach for the course. The software runs a stand-alone application that does not require administrative rights and does not require server or Internet access. This report documents the process that was used to develop the tool and provides an overview of how to employ the tool. The software is enclosed in this report and also can be obtained by contacting the U.S. Army Research Institute for the Behavioral & Social Sciences.

<http://handle.dtic.mil/100.2/ADA528755>

KEYWORDS: blended learning, military planning training, intelligence preparation of the battlefield, technology, military decision making process

**RP 2010-04**

**Assessing Leader Cognitive Skills with Situational Judgment Tests: Construct Validity Results**

Jennifer S. Tucker, Amanda N. Gesselman, & Vanessa Johnson. September 2010. (ADA530102)

The objective of this research was to provide construct validity evidence for two situational judgment tests (SJTs) that were developed to evaluate the cognitive skills of experienced Army leaders in the Maneuver Captains Career Course. Specifically, the SJTs were developed to assess two different echelons of command – company command competencies and battalion staff competencies. Results from 138 officers (primarily Captains) demonstrated that the best fitting models for both SJTs were ones in which adaptive skill and task performance were separate constructs. These findings are useful for instructors in that they provide specific guidance regarding the modules that reflect performance in either adaptive or routine decision-making contexts. Further, feedback was highly favorable due to the scenario-based nature of the questions; students felt challenged by having to apply knowledge learned throughout the course. These findings indicate that a SJT may be a practical and valid method for assessing leader adaptive and decision-making skills, especially when the data will be used to compare performance across individuals. <http://handle.dtic.mil/100.2/ADA530102>

KEYWORDS: situational judgment test (SJT), cognitive skills, training, assessment, measurement, company command, battalion staff

**RP 2010-05**

**Advisor Influence Strategies: 10 Cross-Cultural Scenarios for Discussion and Self-Assessment (Instructor's Manual)**

Michelle Ramsden Zbylut, Michelle Wisecarver, Hannah Foldes, & Rob Schneider. September 2010. (ADA531634)

Influencing individuals can be daunting when influence must occur across a cultural divide. This is precisely the situation in which security force advisors, combat advisor teams, and transition teams often find themselves—attempting to influence individuals from another culture who are not in their chain of command. This research product is an instructor's manual that contains scenarios and materials to help advisors learn more about the types of situations in which influence is necessary. The scenarios were drawn from real events told by returning advisors. This manual includes (1) a scenario-based self-assessment tool that prospective advisors can use to better understand their influence strategies, (2) student handouts to enable them to score their use of different influence tactics and the effectiveness of influence tactics, (3) a scoring and interpretation guide for nine types of influence tactics, such as rational persuasion and pressure, (4) a discussion guide that provides instructors with discussion questions for each scenario, and (5) a student handout describing the different types of influence tactics that appeared in the assessment tool. While scenarios are specific to advising host

nation counterparts, this manual may be useful for military instructors interested in teaching about cross-cultural influence more generally.

<http://handle.dtic.mil/100.2/ADA531634>

KEYWORDS: cultural awareness, leadership, influence, culture, advise, security force assistance, counterinsurgency (COIN), transition team, advisor, persuasion

## **Study Reports**

### **SR 2010-01**

#### **Impact of Game-Based Training on Classroom Learning Outcomes**

Richard Topolski, Bruce C. Leibrecht, Sean Cooley, Nicole Rossi, Donald R. Lampton, & Bruce W. Knerr. September 2010. (ADA531677)

The research presented here compares current training methods with the application of game-based training (GBT) for selected tasks in an institutional environment (classroom/garrison setting). This report focuses on the effectiveness of game-based simulations for training, as well as identification of strategies and methods for implementing such simulations. Multiple measures were obtained during two Advanced Leaders Courses: a biographical survey, multiple-choice pre-test and post-test, feedback questionnaires, hotwashes and group interviews, and observations during assessment events (e.g., terrain board testing, Close Combat Tactical Trainer exercises). Support for the effectiveness of GBT was found. The GBT group performed better on the post-test than the No-GBT group in one of the two courses. Both courses exhibited improvement from pre- to post-test, indicating that the course was effective in increasing Soldiers' knowledge. The research team received valuable feedback on how to best employ GBT in the courses studied as well as in other institutional programs.

<http://handle.dtic.mil/100.2/ADA531677>

KEYWORDS: game-based training , desktop simulations, virtual battlespace 2, instructional methodology, advanced leaders course, training technology, training effectiveness

### **SR 2010-02**

#### **Game-based training effectiveness evaluation in an operational setting**

Krista Langkamer Ratwani, Kara L. Orvis, & Bruce W. Knerr. September 2010. (ADA530660)

With high operational tempo and increasingly complex operational environments, , the U. S. Army is increasingly using game-based training as a lower cost and more time-effective training method for both individual and collective training of tactical skills. However, there has been little empirical evidence to demonstrate the effectiveness of game-based training and to help leaders make decisions about their use. In response to the need for more evidence regarding the effectiveness of game-based training (GBT), an evaluation of training games supported by Virtual Battle Space 2 (VBS2): U.S. Army was

conducted in operational settings. This report describes the methods, measures, and results of an evaluation with 165 Soldiers participating in GBT. Pre- and post-measures were administered that focused on measuring training effectiveness through individual level (e.g., task performance) and unit level (e.g., unit effectiveness) outcomes. Results demonstrate that, in general, the training influenced both individual (e.g., task performance) and unit level (e.g., unit cohesion) outcomes. In addition, situational characteristics (the amount the unit prepared for the training and the level of leader involvement during the training) influenced both types of outcomes.

<http://handle.dtic.mil/100.2/ADA530660>

KEYWORDS: games, training evaluation

**SR 2010-03 - See RN 2011-04**

### **Study Notes**

**SN 2010-01**

#### **Usability of Wearable and Desktop Game-Based Simulations: A Heuristic Evaluation**

John S. Barnett, & Grant S. Taylor. May 2010. (ADA520887)

The use of simulators based on game software has the potential to deliver effective training. However, simulators with usability problems can interfere with training by presenting unwanted distractions. This report describes an assessment of the usability of a wearable computer system which has been designed to interface with a virtual environment and which can be used for simulator training. Usability of the wearable system was compared with that of a more common desktop interface in a game-based virtual environment. Eight evaluators conducted a heuristic usability evaluation of the wearable system and desktop interfaces. They identified 24 usability concerns with the wearable system and desktop interfaces, and the virtual environment. The majority of the concerns (46%) were with the virtual environment. Forty-two percent of the concerns were related to the wearable system, and the remaining 12% dealt with the desktop interface. However, when the frequency, impact, and persistence scores were aggregated into an overall score, the wearable system had the poorest usability. Eight of the ten greatest usability concerns were related to the wearable system. These data suggest that the virtual environment is more usable with the desktop interface than the wearable system. <http://handle.dtic.mil/100.2/ADA520887>

KEYWORDS: game-based simulations, usability, heuristic evaluation, immersive simulation

## Research Notes

**RN 2010-01 - See RN 2011-04**

**RN 2010-02**

### **Decision Process to Identify Lessons for Transition to a Distributed (or Blended) Learning Instructional Format**

Thomas R. Graves, & William R. Bickley. November 2009. (ADA520297)

The U.S. Army Infantry School, Office of the G-3, asked the Army Research Institute to evaluate the course content of 51 programs of instruction (n=2,065 lessons) for potential transition to a distributed learning instructional format. Using a mixed-method coding and analysis approach, the sample of POIs were categorized, coded, statistically analyzed, and a decision-process was developed to classify lessons into fully transitionable, partially transitionable or not transitionable groups. The thematic structure of course content types and the decision process may be adapted by related Army organizations seeking to evaluate their curricula for lessons that could be transitioned to a distributed learning format. Statistical analyses of the sample are provided as well as detailed appendices concerning the classification of the specific lessons in the sample. <http://handle.dtic.mil/100.2/ADA509297>

KEYWORDS: distributed learning, blended learning, applications of qualitative method

**RN 2010-03 – See RN 2011-04**

**RN 2010-04**

### **List of U.S. Army Research Institute Research and Technical Publications for Public Release/ Unlimited Distribution Fiscal Year 2008**

U.S. Army Research Institute for the Behavioral and Social Sciences. November 2009. (ADA520967)

ARI publishes lists of its technical and research publications as a convenient reference for qualified agencies and individuals and sponsors. This issue of the publication list describes reports approved for public release during the period October 1, 2007, to September 30, 2008. It contains the abstract of each publication and the bibliographic information needed to identify a publication. The abstracts have been written, as far as possible, to describe the principal research findings in non-technical terms; however, technical language is used to communicate efficiently the details of research analysis. Author and subject indexing provide access to individual reports. <http://handle.dtic.mil/100.2/ADA520967>

KEYWORDS: Army Research Institute, research and development, studies and analysis, training, personnel



**RN 2010-05****List of U.S. Army Research Institute Research and Technical Publications for Public Release/ Unlimited Distribution Fiscal Year 2009**

U.S. Army Research Institute for the Behavioral and Social Sciences. May 2010. (ADA535423)

ARI publishes lists of its technical and research publications as a convenient reference for qualified agencies and individuals and sponsors. This issue of the publication list describes reports which are for public release/unlimited distribution during the period October 1, 2008 to September 30, 2009. It contains the abstract of each publication and the bibliographic information needed to access a publication. The abstracts have been written, as far as possible, to describe the principal research findings in non-technical terms; however, technical language is used to communicate efficiently the details of research analysis. Author indexing provides access to individual reports. <http://handle.dtic.mil/100.2/ADA535423>

The list of publications which are for restricted/limited distribution during the period October 1, 2008 to September 20, 2009 are in ARI Research Note 2010-06.

KEYWORDS: Army Research Institute, research and development, studies and analysis, training, personnel

**RN 2010-06 –See RN 2011-04****RN 2010-07****Mobile Learning Approaches for US Army Training**

Jennifer S. Tucker. August 2010. (ADA528742)

The purpose of this research was to review the current literature on mobile learning and identify potential approaches of incorporating smartphone technologies in US Army training. Specifically, the research reports successful demonstrations of mobile learning outside of the Army and identifies potential challenges in using the technology in Army training. Thus, the report discusses the following areas: Definition and potential advantages of mobile learning; Demonstrations of using mobile technology in instructional environments; Potential approaches for US Army training: A 5- to 10-year outlook; Challenges in using mobile learning technologies in US Army training; and Conclusions and research questions. <http://handle.dtic.mil/100.2/ADA528742>

KEYWORDS: mobile learning, training, blended learning, new equipment training, lifelong learning, Army Learning Concept

**RN 2010-08****Development and Evaluation of a Video Designed to Enhance Officer Career Continuance**

Fred A. Mael, Alexander Alonso, Jeff W. Johnson, & Nehama Babin. September 2010. (ADA530324)

The purpose of this research was to develop and evaluate an intervention designed to improve U.S. Army company grade officer career continuance. This intervention was a video featuring interviews with former officers to present their perspective on what aspects of the Army they miss in civilian life. We conducted focus groups with 155 current company grade officers to evaluate the ability of the video to influence career decisions and intentions toward staying in the Army. Between 15-29% of participants agreed with various post-viewing survey questions about the video changing different attitudes they had about the Army (e.g., appreciate aspects of being an officer that were taken for granted, more convinced they made the right choice by joining the Army), and over 45% said that the video helped clarify for them the unique benefits of being an officer. There was some degree of consensus from different sources that if the video was shown to officers who were at a decision point, if the showing of the video was accompanied by counseling by one's commander, and if the video was also shown to the spouse as a stimulus of much-needed conversation, that it could prove to be well worthwhile and possibly advantageous in retaining company grade officers.

<http://handle.dtic.mil/100.2/ADA530324>

KEYWORDS: career continuance, Army company grade officers, officer retention, interventions for improving continuance

### **Contractor Reports\***

**\*These additional reports submitted by contractors are not listed in the previous categories**

#### **CR 2010-01**

##### **Measuring Organizational Learning: A Preliminary Progress Report**

Chris Winkler, & Charles T. Russell. August 2010. (ADA527547)

The goal of this research effort was to develop observer-based measures of organization learning and then apply the measures to assess how a Stryker Brigade Combat Team (SBCT) cognitively prepares for combat. The research team adopted a measurement approach based on what is called the Tactical Problem Solving Process (TPSP), rather than the Military Decision Making Process (MDMP), as TPSP better reflects how brigades currently conduct the planning process during exercises. During Phase 1, a set of preliminary measures were developed to assess: Leader Initiative, Command Approach, and Understanding Command Intent. At the contractor's request, the Phase II assessment was not conducted. This report, therefore, documents the preliminary but potentially useful progress made on measuring organization learning.

<http://handle.dtic.mil/100.2/ADA527547>

KEYWORDS: measurement, learning, organization learning, leader initiative, command approach, command intent



**CR 2010-02****A Computer Mediated Learning Environment for a Joint and Expeditionary Mindset**

Gary E. Riccio, Michael P. Lerario, Robert P. Semmens, Frederick J. Diedrich, Yale Marc, & Gareth Digby. August 2010. (ADA527550)

The objective of the research was to develop a computer-mediated training environment to prepare ground component forces with the necessary cognitive skills for the emerging challenges of a Joint and expeditionary force. A key element of such a mindset is to be comfortable and proficient in interacting with people from different specialties for the purpose of collaborative problem solving at the boundaries between the known and the knowable. The product of this effort, Socrates Window, provides an open-source web-based solution that has the potential to facilitate interactions between students, instructors, and outside experts that blends classroom-based learning with distance learning. Evidence from stakeholders and end users, such as small group instructors in Army training and education, indicates that Socrates Window has both value and utility. It is not usable, however, in programs of instruction for which information technology and security constraints de-motivate use of social networking tools.

<http://handle.dtic.mil/100.2/ADA527550>

**KEYWORDS:** training, distance learning, blended learning, collaborative learning, joint and expeditionary mindset, social networking, joint interagency, intergovernmental multinational, common scenario, mentoring, Web 2.0, full spectrum operations, counterinsurgency, usability engineering, captains career course.



## Index of ARI Publications

### Abbreviations

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<b>TR</b>	<b>Technical Report</b>	<b>SN</b>	<b>Study Note</b>
<b>RR</b>	<b>Research Report</b>	<b>RN</b>	<b>Research Note</b>
<b>RP</b>	<b>Research Product</b>	<b>CR</b>	<b>Contractor Report</b>
<b>SR</b>	<b>Study Report</b>		

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## **I**

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## **J**

Jackson, E. M. TR 1268  
Jackson, S. RR 1918  
James, D. R. RR 1920, RR 1924  
Jensen, R. TR 1261  
Jerome, C. J. TR 1262  
Johnson, J. W. TR 1271, RN 2010-08  
Johnson, V. RP 2010-04

## **K**

Keil, S. RP 2010-01  
Kilcullen, R. TR 1272  
Knapp, D. J. TR 1267, RR 1926  
Knerr, B. W. RR 1931, SR 2010-01, SR 2010-02  
Kubisiak, U. C. TR 1268

## **L**

Lampton, D. R. TR 1261, TR 1262, SR 2010-01  
Legree, P. J. TR 1268, TR 1272  
Leibrecht, B. C. RR 1919, RR 1925, RR 1930, SR 2010-01  
Lentz, E. TR 1268  
Lerario, M. P. CR 2010-02  
Lickteig, C. W. RR 1925, RR 1928, RR 1930

## **M**

Mael, F. A. RN 2010-08  
Marc, Y. CR 2010-02  
Menaker, E. RR 1928  
Metcalf, K. A. TR 1259, TR 1264  
Mizrahi, G. RP 2010-03  
Myers, D. RR 1928

## **O**

O'Connor, A. TR 1264  
O'Driscoll, J. RP 2010-03  
Oliver, J. RR 1926  
Orivs, K. L. SR 2010-02  
Owens, K. RR 1926

## **P**

Palla, A. L. RR 1929  
Pavlas, D. TR 1261  
Pleban, R. J. RR 1921  
Porter, T. RR 1919  
Price, D. RR 1923  
Psotka, J. TR 1272  
Putka, D. TR 1272

## **R**

Ramachandran, S. TR 1261  
Randolph, J. RR 1913  
Ratwani, K. L. SR 2010-02  
Raymer, P. RP 2010-02  
Reeves, R. RR 1925  
Riccio, G. E. CR 2010-02

Roan, L. TR 1259, TR 1264  
Rosen, M. A. TR 1261  
Rossi, N. SR 2010-01  
Rotstan, K. RP 2010-01  
Russell, C. T. CR 2010-01

## **S**

Salas, E. TR 1261  
Sauser, J. E. TR 1268  
Schaefer, P. S. RR 1918, RR 1923, RR 1924  
Schneider, R. RP 2010-05  
Semmens, R. P. RR 1921, RP 2010-03, CR 2010-02  
Shadrick, S. B. RR 1929  
Sidman, J. RR 1921, RP 2010-03  
Silverman, M. RR 1928  
Singer, M. J. RR 1931  
Smith, T. TR 1268  
Snyder, J. A. RR 1922  
Stewart, J. E. TR 1260  
Strong, B. TR 1259  
Stroupe, H. RR 1928

## **T**

Taylor, G. S. SN 2010-01  
Topaz, D. RR 1915  
Topolski, R. RR 1919, RR 1925, RR 1930, SR 2010-01  
Tremble, T. R. TR 1268  
Tucker, J. S. RR 1913, RP 2010-03, RP 2010-04, RN 2010-07

## **U**

U.S. Army Research Institute for the Behavioral and  
Social Sciences RN 2010-04, RN 2010-05

## **V**

Vasilopoulos, N. RR 1917  
Vowels, C. L. RR 1916

## **W**

Wadsworth, A. RR 1929  
Wampler, R. L. RR 1920, RR 1924  
Winkler, C. CR 2010-01  
Wisecarver, M. RR 1917, RP 2010-05  
Wright, K. RR 1915

**Y**

Yager, M. TR 1259

Young, M. C. TR 1268

Yuan, P. RR 1029

**Z**

Zbylut, M. R. RP 2010-05





## Books and Book Chapters

- Psotka, J., Legree, P., Belanich, J., Bludau, T. M., & Gray, D. (2009). New simulator-based training approaches for security operations: Low fidelity simulations for assessment. In Bartone, P., Johnsen, B., Eid, J., Violanti, J. C., & Laberg, J. (Eds.) *Enhancing human performance in security operations: International and law enforcement perspectives*. Springfield, IL: Charles C. Thomas, LTD.
- Ratwani, K. L., Zaccaro, S. J., Garven, S., & Geller, D. S. (2010). The role of developmental social networks in effective leader self-learning processes. In M. G. Rothstein, & R. J. Burke (Eds.) *Self-management and leadership development* (395-426). Cheltenham, UK: Edward Elgar.
- Ruth, L. & Higley, L. (Eds.). (2010). *Understanding cultural landmines in the Balkans: How the land and its history have kept a people at war*. (2<sup>nd</sup> ed). Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

## Journal Articles

- Abbe, A., & Halpin, S. M. (2009). The cultural imperative for professional military education and leader development, *Parameters*, 39, 20-31.
- Durlach, P. J., & Bowens, L. D. (2010). Effect of icon affiliation and distance moved on detection of icon position change on a situation awareness display. *Military Psychology*, 22, 98-109.
- Durlach, P. J. (2010, July). *Training needs for units with small unmanned aerial systems*. Proceedings of the Applied Human Factors and Ergonomics Society, Miami, FL.
- Friedrich, T., Vessey, W. B., Schuelke, M. J., Ruark, G. A., & Mumford, M. D. (2009). A framework for understanding collective leadership: The selective utilization of leader and team expertise within networks. *The Leadership Quarterly*, 20-6, 933-958.
- Johnson, V., Pleban, R. J., & Tucker, J. S. (2009, October). *Investigating the effects of desktop computer simulation training on situation awareness (SA) and adaptive decision-making skills*. Proceedings of the Human Factors and Ergonomics Society 53rd Annual Meeting, San Antonio, TX, 1196-1200.
- Kaplan, S. A., Cortina, J., & Ruark, G. A. (2010). Ooops. . . . We did it again: IO's focus on EI instead of on its relationships to work outcomes. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, 3, 171-177.

Kim, J. M., Hill, R. W., Durlach, P. J., Lane, H. C., Forbell, E., Core, M., Marsella, S., Pynadath, D. & Hart, J. (2009). BiLAT: A game-based environment for practicing negotiation in a cultural context. *International Journal of Artificial Intelligence in Education*, 19(3), 289-308.

Lipinski, J., Spencer, J. P., & Samuelson, L. K. (2010). *Biased feedback in spatial recall yields a violation of delta rule learning*. *Psychonomic Bulletin & Review*, 17, 581-588.

Tucker, J. S., Gunther, K. M., & Pleban, R. J. (2010, January). The mediating effects of adaptability on values-performance relationships. *Human Performance*, 23, 81-99.

### **Conference Papers**

Abbe, A. A. (2010, March). *Designing curricula and instruction for the development of cultural expertise*. Paper presented at the ROTC Project Global Officers Second Annual Leadership Conference, Tempe, AZ.

Abbe, A. A. (2010, April). *Interdisciplinary research: Challenges and solutions*. (Panelist). Panel discussion presented at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.

Baard, S. K., Zaccaro, S. J., & Beard, P. P. (2010, April). *Leader influence on intrinsic motivation and performance: self-determination theory applied*. Paper presented at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.

Babin, N., Tremble, T., Kilcullen, R., & Ardison, S. (2009, October). *Two paths to officer candidate school: Meeting the needs of the U.S. Army Officer Corps*. Paper presented at the Inter-University Seminar on Armed Forces and Society, 2009 Biennial International Conference, Chicago, IL.

Barnett, J. S. & Taylor, G. S (2010, September). *Usability of wearable and desktop Simulations: A heuristic evaluation*. Paper presented at the Human Factors and Ergonomics Society 54th Annual Meeting, San Francisco, CA.

Beal, S. A. (2009, November). *Exploring the use of a multi-player game to train infantry company commanders*. Paper presented at the 2009 Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL.

- Bratt, E. O., Domeshek, E. & Durlach, P. J. (2010, June). *The first report is always wrong, and other ill-defined aspects of the army battle Captain Domain*. Paper presented at the Ill-defined Domains Workshop of the Tenth International Conference on Intelligent Tutoring Systems (ITS), Pittsburgh, PA.
- Cianciolo, A. T., & Evans, K. L. (2010, April). *The "human factor" of virtual work: Trust and information technology in distributed teams*. Paper presented at the 25<sup>th</sup> Annual Society for Industrial & Organizational Psychology (SIOP) Conference, Atlanta, GA.
- de Visser, E. J., LeGoullon, M., Horvath, D., Weltman, G., Freedy, A., Durlach, P.J., & Parasuraman, R. (2010, March). *TECRA: C2 application of adaptive automation theory*. Paper presented at the 2010 IEEE Aerospace Conference, Big Sky, MT.
- Donsbach, J., Tannenbaum, S., Mathieu, J., Alliger, G., & Metcalf, K. (2010, April). Team optimization profile system: A practical application of team composition. In G. Goodwin & K. Metcalf (Chairs), *Advances in the science and practice of team composition and staffing*. Symposium conducted at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Durlach, P. J., Priest-Walker, H., Saffold, J., & Martin, G. A. (2009, October). *Developing collective training for small unmanned aerial systems employment*. Paper presented at the Modeling and Simulation (MODSIM) World 2009 Conference and Expo, Hampton Roads, VA.
- Durlach, P. J. (2009, November). *Issues in deployment of serious games*. Paper presented at the 2009 Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL.
- Durlach, P. J. & Dargue, B. (2010, May). *An adaptive training prototype for small unmanned aerial system employment*. Paper presented at the Twenty-First International Florida Artificial Intelligence Research Society Conference (FLAIRS), Daytona Beach, FL.
- Dyer, J. L. (2009, October). *Embedded training for a ground Soldier system*. Paper presented at the NATO HFM 169 workshop on Human Dimensions in Embedded Virtual Simulation in Orlando, FL
- Evans, K. L., Cianciolo, A. T., Hunter, A. E., & Pierce, L. G. (2010, June). *Modeling interpersonal trust in distributed command and control teams*. Paper presented at the 15<sup>th</sup> International Command and Control Research and Technology Symposium, Santa Monica, CA.

- Garven, S. (2009, October). Trusting the trust literature: what applied and theoretical literatures have in common. In E. Salas (Chair), *Managing trust in swiftly starting action teams*. Symposium conducted at the Human Factors and Ergonomics Society's 53<sup>rd</sup> Annual Meeting, San Antonio, TX.
- Goldberg, S. L. (2010, September). *Accelerated learning: Procedural vs. employment training*. Paper presented at the Human Factors and Ergonomics Society 54th Annual Meeting, San Francisco, CA.
- Goodwin, G. A. (2009, November). *Decision making with digital systems*. Paper presented at the 2009 Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL.
- Goodwin, G. F., & Burke, C. S. (2010, April). *Building and managing virtual teams in a global environment: Moving forward through matching insights, tools, and technology*. (Chairs). Symposium conducted at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Goodwin, G. F. & Metcalf, K. A. (2010, April). *Advances in the science and practice of team composition*. (Chairs). Symposium conducted at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Goodwin, G. F. (2010, April). *A discussion of current research on multiteam systems*. (Panelist). Panel discussion presented at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Goodwin, G. F. (2010, April). *Interdisciplinary research: Challenges and solutions*. (Panelist). Panel discussion presented at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Goodwin, G. F. (2010, April). *Taking a structural approach to understanding and managing team performance*. (Discussant). Symposium conducted at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Graham, S. E. (2009, December). *Army UAS training research challenges*. Paper presented at the Technical Analysis and Applications Center (TAAC) 2009 Unmanned Aircraft Systems (UAS) Conference, Albuquerque, NM.
- Heffner, T., White, L., & Owens, K. (2010, September). *Tier One performance screen: Initial operational test and evaluation*. Paper presented at the Army Accessions Research Consortium, Fort Knox, KY.
- Hunter, A. E. (2009, November). *Building effective teams and organizations for complex operations: ARI's research on trust*. Paper presented at the Air Force Research Laboratory's Workshop on Trust, Fairborn, OH.

- Hunter, A. E., & Pierce, L. G. (2010, September). *Information Sharing in Distributed Teams*. Paper presented at the Human Factors and Ergonomics Society 54<sup>th</sup> Annual Meeting, San Francisco, CA.
- Hwang, H. S., Matsumoto, D., LeRoux, J. A., Yager, M., & Ruark, G. (2010, July). *Cross-cultural similarities and differences in emblematic gestures*. Paper presented at the 2010 Congress of the International Association of Cross-Cultural Psychology, Melbourne, Australia.
- Lampton, D. R., Bliss, J., Orvis, K., Kring, J., & Martin, G. (2009, October). *A distributed game-based simulation training research testbed*. Paper presented as part of a panel discussion on "Leveraging Virtual Reality and Computer-Based Games for Training" at the Human Factors and Ergonomics Society's 53<sup>rd</sup> Annual Meeting, San Antonio, TX.
- LeGoullon, M. de Visser, E., Freedy, A., Durlach, P., Freedy, E., Weltman, G., & Parasuraman, R. (2010, March). *TECRA: An application of adaptive automation theory to a C2 system*. Paper presented at the 2010 IEEE Aerospace Conference, Big Sky, MT.
- Lickteig, C. W., Cianciola, A. T., Silverman, M., Menaker, E. S., & Stroupe, H. N. (2009, November). *Improving company commander's visualization in irregular warfare*. Paper presented at the 2009 Interservice/Industry Training, Simulation and Education Conference, Orlando, FL.
- McDaniel, M., Psotka, J., & Legree P. J. (2010, April). *Situational judgments tests, self-insight, and personality: A suppression situation*. Paper presented at the 25th Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Metcalf, K. A., Roan, L., & Freeman, T. (2009, October). *Social perspective taking in contemporary operations*. Paper presented at the Defense Critical Language/Culture Program of the Mansfield Culture Center, Missoula, MT.
- Metcalf, K. A., Roan, L., & Freeman, T. (2009, October). *Cross-cultural teaching strategies for military personnel*. Paper presented at the Defense Critical Language/Culture Program of the Mansfield Culture Center, Missoula, MT.
- Metcalf, K. A., Weyhrauch, W., Freeman, T., & Phelps, C. E. (August, 2010). Importance of culture-general knowledge for effective advisors. In K. Metcalf (Chair), *Culture-general knowledge and training for the military*. Symposium conducted at the 118<sup>th</sup> Annual Conference of the American Psychological Association (APA), San Diego, CA.

- Miller, C., Self, N., & Garven, S., (2009, November). *Leader Challenge™*.  
*A platform for training and developing leaders*. Paper presented at the 2009  
 Interservice/Industry Training, Simulation and Education Conference (I/ITSEC),  
 Orlando, FL.
- Orvis, K. L., Ruark, G., Engel, K. L., & Ratwani, K. L. (2010, September). *Training  
 leaders on emotion management skills: Challenges in designing a blended learning  
 program*. Symposium conducted at the Human Factors and Ergonomics Society's  
 54<sup>th</sup> Annual Meeting, San Francisco, CA.
- Owens, K., Knapp, D., & Campbell, C. (2010, August). *Army Class: Longitudinal  
 Validation Design and Method*. Paper presented at the 118<sup>th</sup> Annual Conference  
 of the American Psychological Association (APA), San Diego, CA.
- Priest-Walker, H. (2009, October). *Initial, Individual decisions to trust in forming  
 teams: What is the impact of 'not knowing'?* Paper presented at the Human  
 Factors and Ergonomics Society's Annual 53rd Annual Meeting, San Antonio, TX.
- Psotka, J., Legree, P. J., & Ruise, B. (2009, December). *Self awareness, cultural  
 awareness, consistency, and the ecology of ability in college student*. Paper  
 presented at the International Society for Intelligence Research (ISIR), Madrid,  
 Spain.
- Ray, J. M. & Barnett, J. S. (2009, October). *An evolution of tutoring and training  
 from human tutors to intelligent systems: Human factors considerations*. Paper  
 presented at the Human Factors and Ergonomics Society's 53<sup>rd</sup> Annual Meeting,  
 San Antonio, TX.
- Ruark, G. A., & Orvis, K. L. (2009, October). Trust as defined by U.S. Army Soldiers. In  
 E. Salas (Chair), *Managing Trust in Swiftly Starting Action Teams*. Symposium  
 conducted at the Human Factors and Ergonomics Society's 53<sup>rd</sup> Annual Meeting,  
 San Antonio, TX.
- Sandamirskaya, Y., Lipinski, J., Lossifidis, I., & Schöner, G. (2010, September).  
*Natural human-robot interaction through spatial language: a dynamic neural  
 fields approach*. Paper presented at the 19th IEEE International Symposium on  
 Robot and Human Interactive Communication, Viareggio, Italy.
- Seers A., & Zbylut, M. R. (Chairs). (2010, April). *Studying collective  
 leadership: Methodological issues*. Panel discussion conducted at the 25<sup>th</sup>  
 Annual Society for Industrial and Organizational Psychology (SIOP) Conference,  
 Atlanta, GA.
- Singer, M. J., Barnett, J. S., & Taylor, G. S. (2010, September). *Military training in virtual  
 environments: User interface evaluations*. Paper presented at the Human Factors  
 and Ergonomics Society's 54<sup>th</sup> Annual Meeting, San Francisco, CA.

- Sluss, David M., Ployhart, Robert E., & Cobb, M. Glenn. (2010, August). *Converging newcomer's relational and collective identification: Prototypicality as moderator*. Paper presented at the 2010 Academy of Management Annual Meeting, Montreal, Canada.
- Stader, S., Ray, J. M., Durlach, P., & Spain, R. (2010, September). *Evaluating technology-based training in ill-defined domains*. Paper presented at the Human Factors and Ergonomics Society's 54th Annual Meeting, San Francisco, CA.
- Stewart, J. E., Barker, W., & Bink, M. L. (2010, May). *Army UAS unit training issues: the case of the RQ-7B shadow*. Paper presented at the 63<sup>rd</sup> Department of Defense Human Factors Engineering Technical Advisory Group Meeting, Mesa, AZ.
- Taylor, G. S., & Barnett, J. S. (2010, September) *Training transfer of wearable and desktop interfaces*. Paper presented at the Human Factors and Ergonomics Society's 54th Annual Meeting, San Francisco, CA.
- Tucker, J. S., & Gesselman, A. N. (2010, April). Measuring Adaptability for Army Leaders. In J. S. Tucker & R. A. Mueller-Hanson, (Chairs). *Measuring adaptability and its development: New findings and innovations*. Symposium conducted at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Woolley, A. W., Bear, J., Chang, J. W., & Hunter, A. E. (2010, July). *Shifting gears: The effects of strategic orientation on situational perceptions and information search in teams*. Paper presented at the 5<sup>th</sup> Annual INGroup Conference, Washington, DC.
- Woolley, A. W. (2010, May). *Why is it easier to be the bad guys? The effects of strategic orientation on team process in competitive environments*. Paper presented at the Sumantra Ghoshal Strategy Conference, London Business School, London, UK.
- Yanakiev, Y., Hunter, A. E., & Sutton, J. L. (2010, April). *Understanding factors that influence coalition teamwork*. Paper presented at the SAS-081 NATO Symposium on Analytical Support for Defence Transformation, Sofia, Bulgaria.
- Zbylut, M. R. (2010, April). *Collective leadership: Disentangling collective leadership from collective performance*. (Panelist). Panel discussion conducted at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.

## Poster Sessions

- Brunner, J. M., Zbylut, M. R., & Phelps, C. (2010, April). *Interpersonal skills: Predicting performance in a cross-cultural setting*. Poster session presented at the 25th Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Brunner, J. M., Weyhrauch, W., Zbylut, M. R., & Metcalf, K. A. (2010, August). *Cultural Knowledge as a Facilitator of Effective Cross-Cultural*. Poster session presented at the 118<sup>th</sup> Annual Conference of the American Psychological Association (APA), San Diego, CA.
- Cucina, J., Hunter, A. E., Martin, N. R., & Vasilopoulos, N. (2010, April). *Empirical keying of personality scales to reduce faking*. Poster session presented at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Freeman, T., Metcalf, K., Weyhrauch, W., & Zbylut, M. R. (2010, August). *The boundary spanner role of transition team chiefs*. Poster session presented at the 118<sup>th</sup> Annual Conference of the American Psychological Association (APA), San Diego, CA.
- Gehlbach, H., Young, L., Brinkworth, M., Paul, K., Roan, L., Strong, B., & Metcalf, K. A. (2010, May). *Reading people better: Social perspective taking correlates and experiments*. Poster session presented at the Association of Psychological Science 22<sup>nd</sup> Annual Convention, Boston, MA.
- Graves, T. R., Pleban, R. J., Miller, M. L., Branciforte, J., Donigian, A. M., & Matthews, M. (2010 May). *Assessing perceptual awareness and ethical decision making in military operational contexts: Reliability and validity of the Ethical Perceptions Scale*. Poster presented at the Association of Psychological Science 22<sup>nd</sup> Annual Convention, Boston, MA.
- Humphrey, A., & Ruark, G. (2010, August). *U.S. Army leaders leveraging emotions to motivate subordinates*. Poster session presented at the 118<sup>th</sup> Annual Conference of the American Psychological Association (APA), San Diego, CA.
- Johnson, B. N. & Bink, M. L. (2009, November). *Group and Collaborative Influences on Unconscious Plagiarism*. Poster session presented at the 50th Meeting of the Psychonomic Society, Boston, MA.
- Johnson, V., Pleban, R. J., & Tucker, J. S. (2009, October). *Investigating the effects of desktop computer simulation training on situation awareness (SA) and adaptive decision-making skills*. Poster session presented at the Human Factors and Ergonomics Society 53rd Annual Meeting, San Antonio, TX.



- LaPort, K., Jose, I., Hunter, A. E., & White, L. A. (2010, April). *The Impact of socially desirable responding on personality assessment validity*. Poster session presented at the 25<sup>th</sup> Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Peddie, C., Agar, J. A., LaPort, K., & Tetrick, L. E. (2010, April). *Physiological stress responses to regulatory focus (mis)match*. Poster session presented at the 25th Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Pleban, R. J., Graves, T. R., Miller, M. L., Donigian, A. M., Branciforte, J., Johnson, V., & Matthews, M. (2010, May). *Thematic analysis of U.S. Military Academy Cadets' experiences of ethical decision making: Training ethical perception in the West Point Negotiation Course*. Poster presented at the Association of Psychological Science 22<sup>nd</sup> Annual Convention, Boston, MA.
- Roberts, M., Halpin, S., & Brunner, J. (2010, April). *An examination of leader self-development: A moderated mediation model*. Poster session presented at the 25th Annual Society for Industrial and Organizational Psychology (SIOP) Conference, Atlanta, GA.
- Roberts, M., & Garven, S. (2010, August). *Self-initiated development of military leaders*. Poster session presented at the 118<sup>th</sup> Annual Conference of the American Psychological Association (APA), San Diego, CA.
- Schaab, B., & Morris, R. M. Jr. (2010, May). *Comparison of cultural values of college students and military personnel in the United States*. Poster session presented at the Association of Psychological Society 22<sup>nd</sup> Annual Convention, Boston, MA.
- Shuffler, M. L., Grossman, R., Burke, C. S., Salas, E., Hilton, R., Zaccaro, S. J., Riches, O., & Ruark, G. A. (2010, August). *Critical social thinking training: best practices for design & delivery*. Poster session presented at the American Psychological Association Annual Convention (APA), San Diego, CA .
- Weyhrauch, W. S., Metcalf, K. A., Freeman, T. E., & Zbylut, M. R. (2010, August). *The evolution of advisory behaviors: Evidence of progress in the advisor mission*. Poster session presented at the 118<sup>th</sup> Annual Conference of the American Psychological Association (APA), San Diego, CA.
- Wolters, H., & Zbylut, M. R. (2010). *Contradicting the conventional wisdom surrounding self-awareness: Can less be more?* Poster session presented at the 118<sup>th</sup> Annual Conference of the American Psychological Association (APA), San Diego, CA.
- Wolters, H. M. K., & Beehr, T. A. (2010, August). *A two-sample study of selection system characteristics, justice, and outcomes*. Poster session presented at the 118<sup>th</sup> Annual Conference of the American Psychological Association (APA), San Diego, CA.



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